OWNER'S MANUAL

TOSHIBA

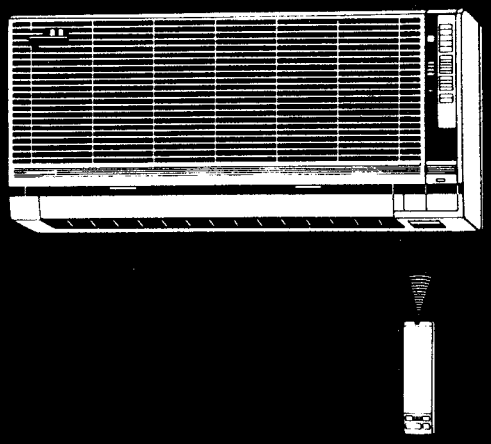
AIR CONDITIONER (SPLIT)

Indoor Unit

RAS-22EKHV(W)

Outdoor Unit

RAS-22EAHV



Thank you very much for purchasing our TOSHIBA Air Conditioner. Please read this owner's manual carefully before using your Room Air Conditioner.

This Equipment complies with EEC directive '82/499/EEC.

FEATURES AND FUNCTIONS

FEATURES

INVERTER AIR CONDITIONER

A micro processor incorporated in the air conditioner automatically senses the difference between the room temperature and the set temperature, and a built-in inverter (frequency changer) changes the rotation speed of the compressor to provide appropriate performance over a wide range.

RADIATION SENSOR

- A radiation sensor that senses the temperature of the floor and walls in the room and a room temperature sensor provide economical operation in a comfortable state.

AUTO LOUVER

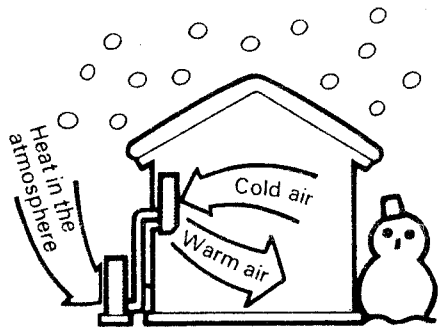
- You can freely control the air flow direction from a distance with a remote control.
- The air flow direction automatically changes depending on the operational condition.

QUICK HEATING OPERATION

- After starting heating operation, warm air is delivered in a few minutes to heat the room quickly.

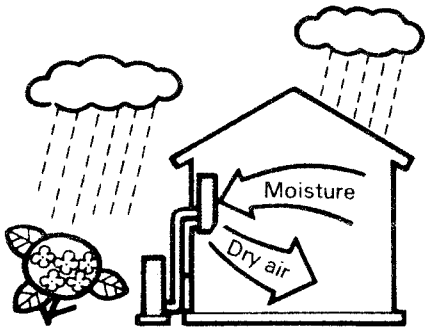
FUNCTIONS

HEATING in winter



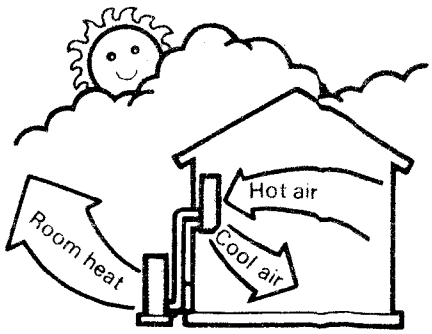
Heating by collecting heat from the atmosphere
In winter, heat in the atmosphere is collected for heating the room.

DRY OPERATION
during rainy seasons



Dry operation removes room moisture
Moisture is removed from the room air without much reducing the room temperature.

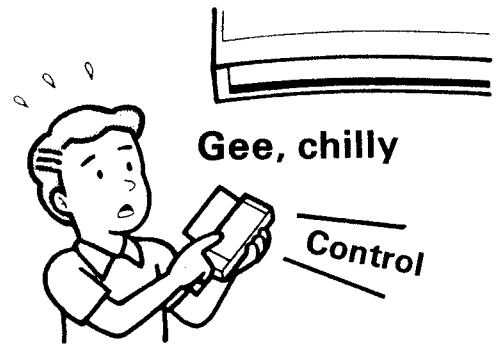
COOLING in summer



Cooling by exhausting heat from the room
In summer, heat in the room is collected and exhausted outdoors for cooling the room.

HINTS FOR ECONOMICAL OPERATION IN COMFORT

Maintain room temperature at a comfortable level.

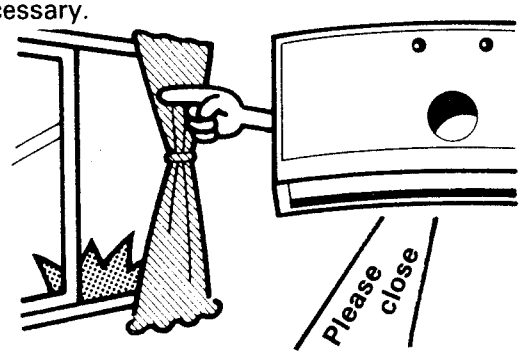


Clean air filter

A clogged air filter impairs cooling efficiency. Clean it from time to time.

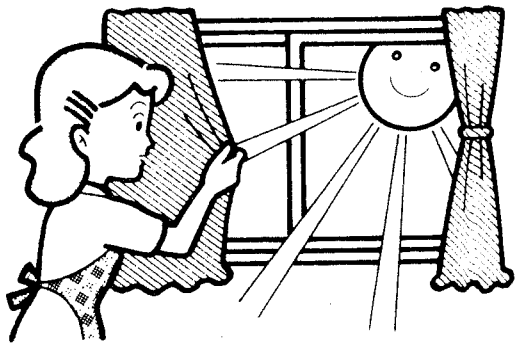
Never open doors and windows more often than necessary

To keep chilled or heated air in the room, never open doors and windows more often than necessary.



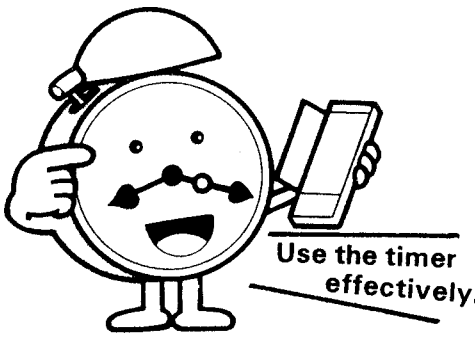
Window curtains

In cooling, close the curtains to avoid direct sunlight; in heating, lay a carpet on the floor.



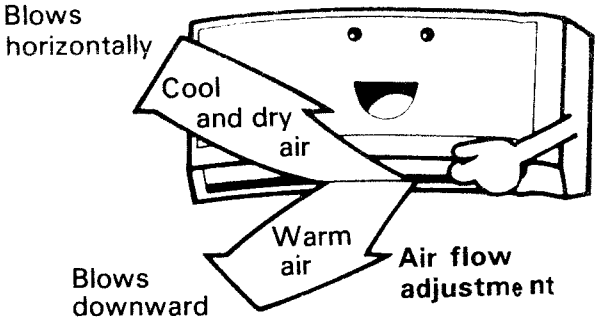
Use timer to your benefit

Set the timer for the desired duration of operation.



Get uniform circulation of room air

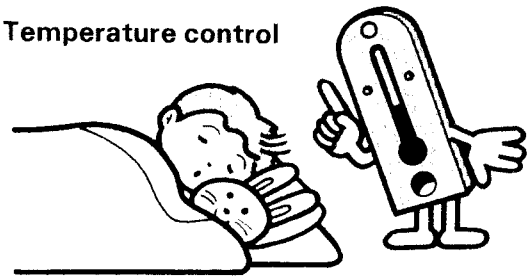
Adjust air flow direction for uniform circulation of room air.



PRECAUTIONS FOR PROPER USE OF AIR CONDITIONER

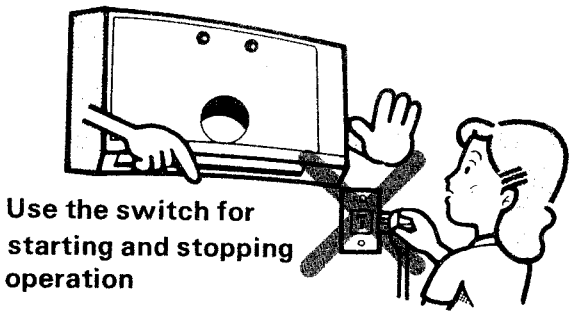
Control room temperature for maximum comfort

Be careful to keep room temperature comfortable, especially when using the air conditioner for physically handicapped persons, infants, or senior persons.



Never start or stop the air conditioner with power plug

Starting or stopping the air conditioner by inserting or removing the power plug might cause electrical shock hazards or overheating.

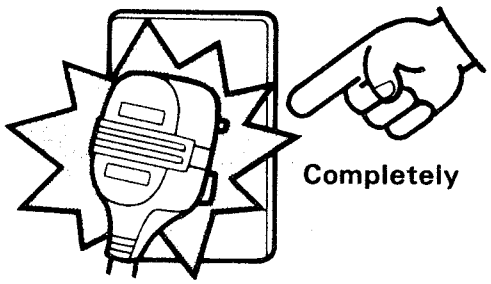


Never poke a rod or hands into air inlet or outlet

Children are particularly liable to this danger. The fan is running at high speed inside. Covering them may deteriorate air conditioner performance or cause it to be come inoperative.

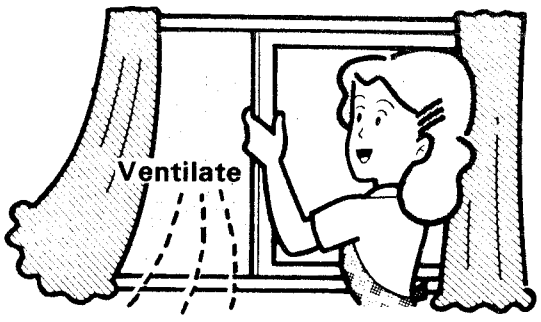
Insert the power plug completely.

Loose plug fit could cause overheating.



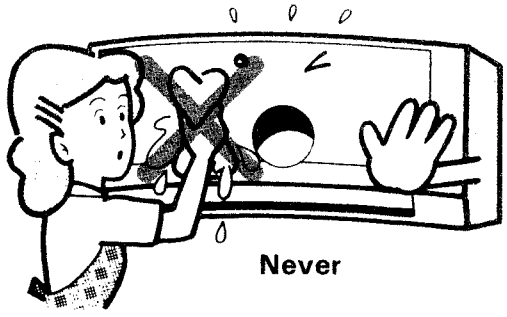
Ventilate room occasionally.

Ventilate the room occasionally while running the air conditioner. Observe this especially when using a gas apparatus in the room.



Never sprinkle water

To avoid electrical shock hazards, never attempt to clean the indoor unit by sprinkling water on it.



AIR CONDITIONER OPERATIONS

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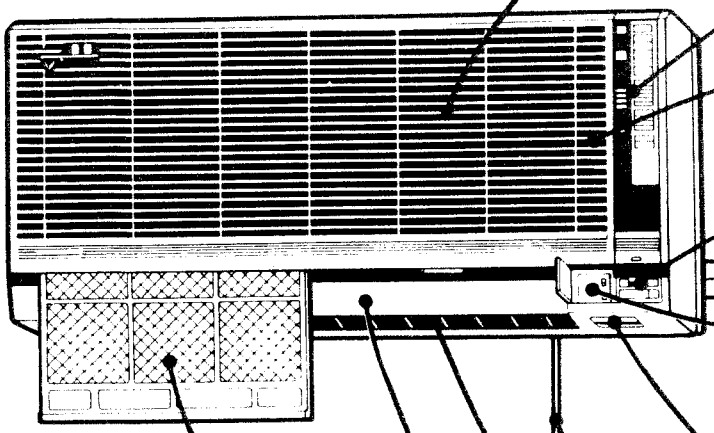
PARTS NAME

Indoor unit



Air inlet

Indicators

Room temperature sensor

Remote control

Included in the cabinet.

Main unit controls

These are also located in the recess of the remote control storage section. See page 7 for how to operate them.

Infrared rays receiver
Radiation sensor

Power cord

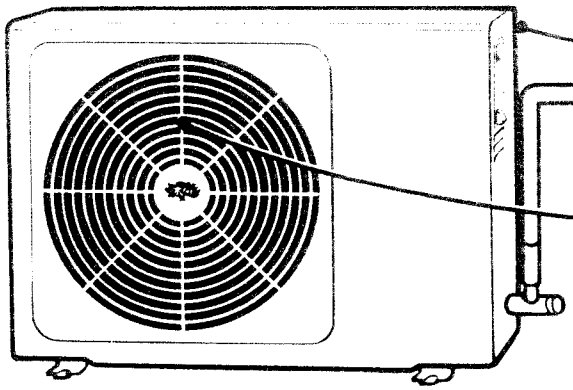
Air outlet

Auto Louver

Air Filters

(left and right)

Outdoor unit

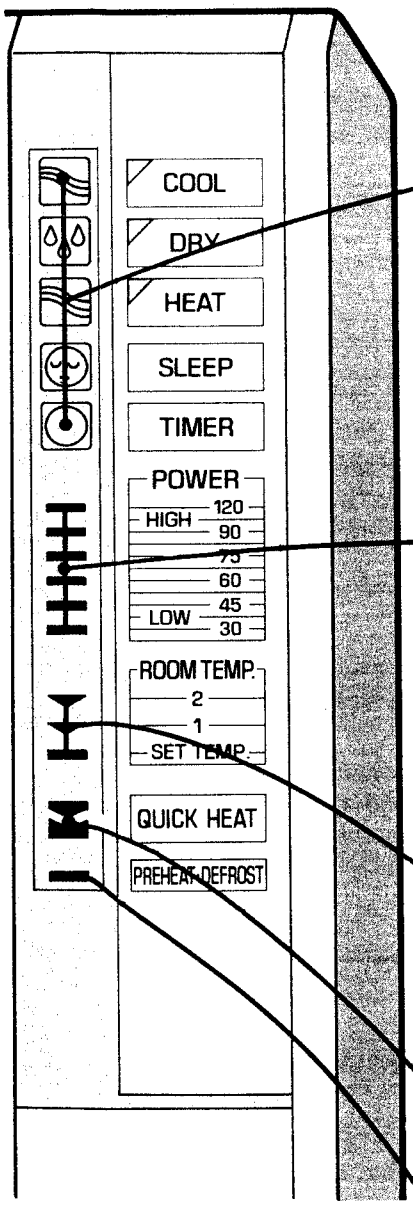


Drain hose, piping, and electric wiring

Air inlet (Rear and side)

Air outlet

NAMES AND FUNCTIONS OF INDICATORS



Operation Mode indicator lamps

These lamps display symbols during operation.

- COOL, DRY ..... Green
- HEAT, TIMER ..... Red
- SLEEP ..... Yellow

POWER MONITOR indicator lamps

The operating frequency of the air conditioner is indicated by the red lamps.

- A POWER MONITOR lamp indicates the typical value of the operation frequency. Therefore, the value indicated, may not match the actual operation frequency perfectly at that time.
- The lamps light between 30 and 120 when heating and between 30 and 75 when cooling. The lamp for 30 goes on for dry operation.

ROOM TEMP. MONITOR indicator lamps

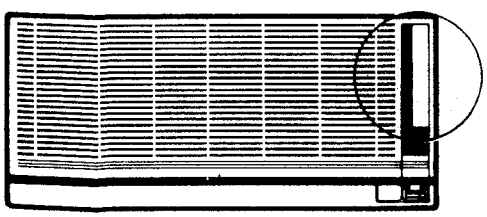
The difference between the room temperature and set temperature is indicated by the green lamp.

- The radiation sensor automatically controls the set temperature to provide a more comfortable environment. If the set temperature is changed, the difference between the temperature readjusted by the radiation sensor and the room temperature is displayed.
- No lamp goes on during FAN ONLY operation.

QUICK HEAT indicator lamps

The red lamp goes on during quick heat operation.
(See page 15 for details about quick heating.)

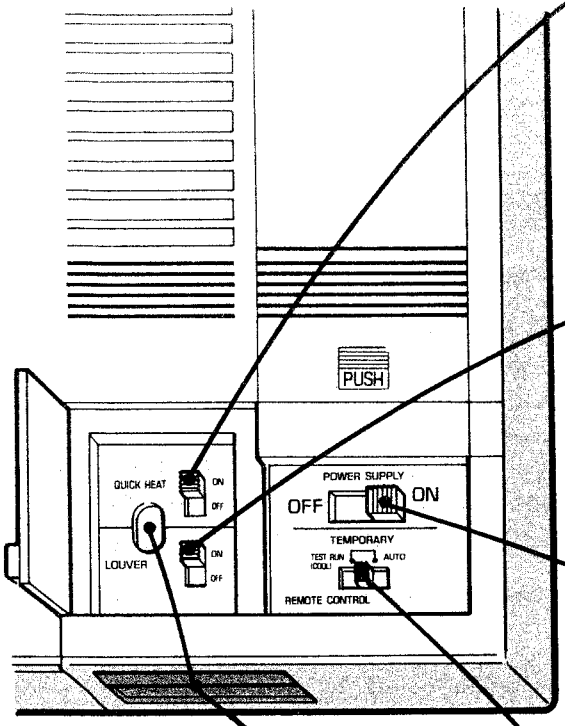
Indicators



PREHEAT · DEFROST indicator lamp

The green lamp goes on when heating operation starts or during defrost operation.
When this lamp is on, the indoor fan stops for 2 to 10 minutes so that cool air is not blown off.
(See page 20 for further details.)

MAIN UNIT CONTROLS AND THEIR FUNCTIONS



QUICK HEAT switch

Set the QUICK HEAT switch to ON before starting heating operation to deliver warm air in a few minutes.
(See page 15 for further details.)

LOUVER switch

Setting this switch to ON automatically changes the air flow direction depending on the operational mode. Set this switch to ON normally.
(See page 14 for further details.)

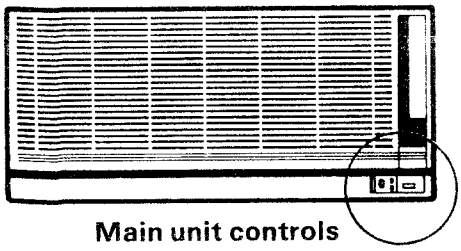
POWER SUPPLY switch

The POWER SUPPLY switch switches the power of the air conditioner on or off.
Set this switch to ON normally. Set it to OFF when the air conditioner is not operated for a long time.

TEMPORARY switch

REMOTE CONTROL operation
This switch is normally set to REMOTE CONTROL.

TEMPORARY operation
Do not use the TEST RUN position for ordinary operation. Operation is also possible if the remote control is lost or the battery is exhausted by switching to TEMPORARY operation.
(See page 16 for further details.)



Main unit controls

Infrared rays receiver

A beep sound is issued when a signal is received from the remote control.
(See page 8 for further details.)

REMOTE CONTROLS AND THEIR FUNCTIONS

Infrared rays emitter

Transmits signals to the main air conditioner unit.

TIMER knob

Set to the desired time interval.

TIMER SELECTOR knob

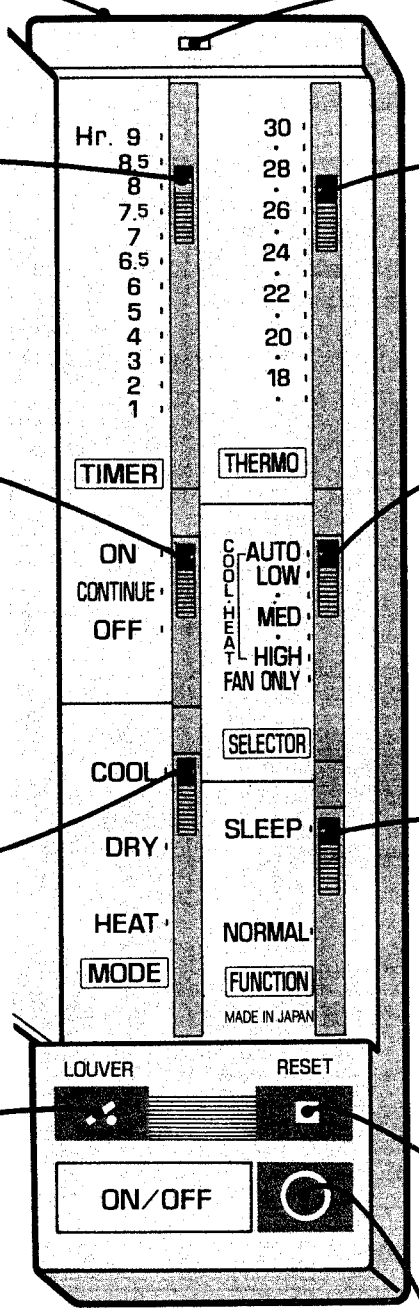
Upon expiry of the set timer interval, the air conditioner starts operating when this knob is set to ON and stops operating when the knob is set to OFF. With the knob set to CONTINUE, the air conditioner continues operating regardless of the timer setting.
(See page 13 for further details.)

MODE knob

The MODE knob is used to select cooling, dry, or heating operation.

LOUVER button

Pushing the LOUVER button enables the auto louver to control air flow direction. A beep is issued continuously while this button is being pushed.
(See page 14 for further details.)



Emission confirmation lamp

The lamp flashes when a signal is received.

THERMO knob

The scale gives a rough measure of the temperature setting.

SELECTOR knob

The AUTO position automatically changes the fan speed depending on the room temperature.
The air conditioner does not operate in the cooling, heating, or dry operation mode when this switch is set to FAN ONLY.

FUNCTION knob

The FUNCTION knob is used to select NORMAL or SLEEP operation.
Selecting the SLEEP operation before going to bed will prevent excessive cooling or heating and also save on your electric bill.

RESET button

Always press this button after changing the operational mode or knob settings during operation. (A beep sound is issued.)

ON/OFF button

Push this button to start operation of the air conditioner. (Beep sounds are heard.)
Push this button again to stop operation.
(A beep sound is heard.)

- Simultaneous pushing of two or more buttons may cause a malfunction.

HANDLING OF REMOTE CONTROL

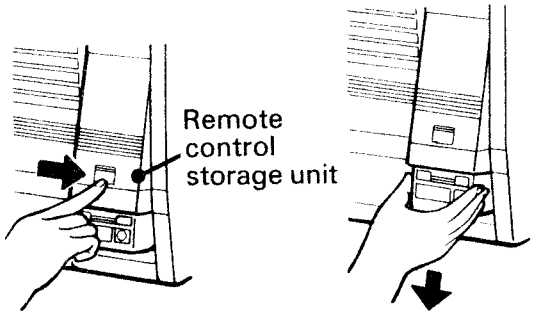
Removing and replacing the remote control

Removing

Gently pushing the place marked PUSH causes the remote control storage unit to move slightly out from the main unit. Remove the remote control from the bottom of the storage unit.

Replacing

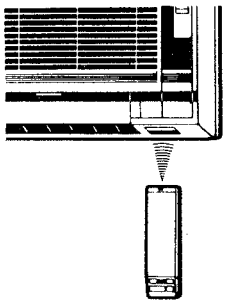
Insert the remote control into the storage unit and push the place marked PUSH to replace the remote control in the main unit.



Remote control mounting fixture

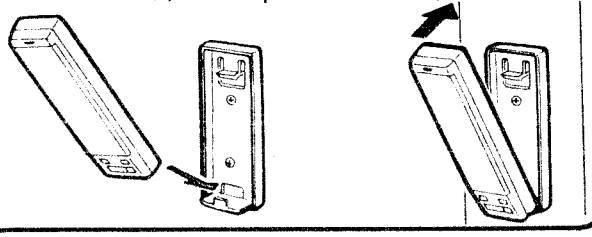
Installation place

- Install the remote control mounting fixture on a wall or pillar. Before installing it, check that signals from the remote control mounted on it can be received by the main unit.



How to mount the remote control

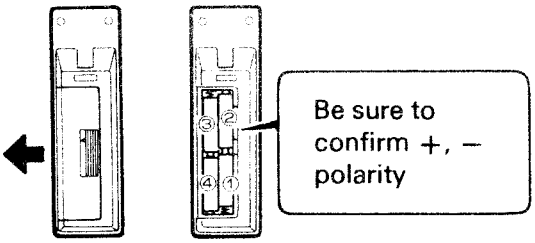
Hook the remote control at a click at the bottom of the mounting fixture (remote control holder), then press the top of it.



Battery replacement

Use four dry cells UM-4 (AAAA)

① Remove the battery cover on the back of the remote control in the direction of the arrow.
Place cells ①, ②, ③, ④ in this sequence so that they are oriented as indicated by the remote control storage unit. Remove them in reverse sequence.



② Push the ON/OFF button and check that the emission confirmation lamp blinks.

- Normal battery service life is approximately 1 year. It depends on the frequency of use.
- Replace the batteries when the air conditioner does not issue a receive tone or the emission confirmation lamp fails to blink.
- When replacing the batteries, remove the old cells and push the ON/OFF button approximately 10 times, then insert the new cells. The air conditioner may not operate via the remote control if the new batteries are inserted without pushing the ON/OFF button.

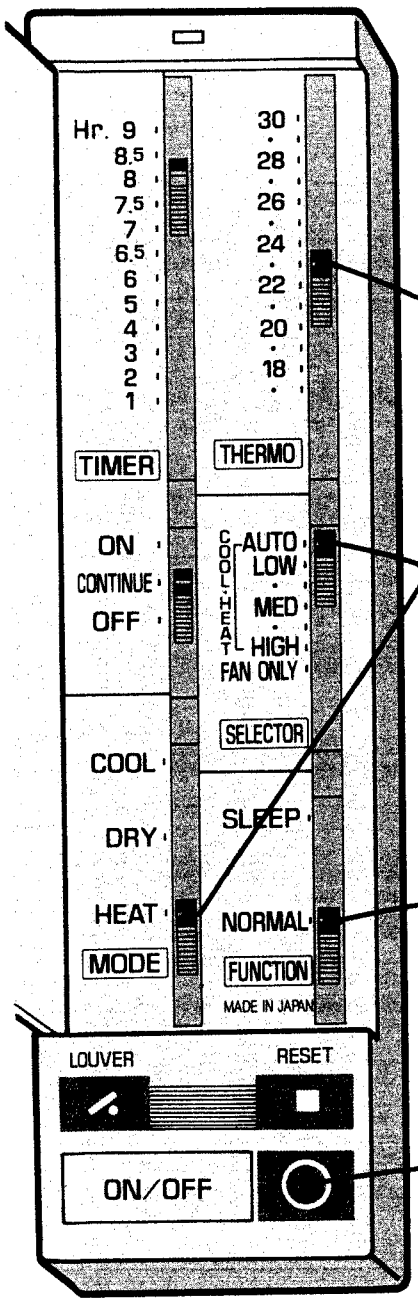
Cautions

- When replacing the batteries, use only new cells. Never mix new and used or different type cells.
- Remove all the cells from the compartment when the remote control is not used for a long time. This will prevent it from being damaged by battery leakage.
- The remote control will not operate when cells are not set correctly. When this happens, consult your dealer.

CAUTIONS

- The air conditioner will not operate if there are curtains or other objects that block signals between the main unit and the remote control.
- Signals can be received at distances of up to about 7 meters.
- Do not throw or drop the remote control. Also, do not get it wet.
- Do not expose the remote control to direct sunlight and do not place it near a stove or other heating apparatus.
- The air conditioner may not operate properly if direct sunlight falls on the receiver. Use a curtain to avoid direct sunlight.
- Signals may not be properly received in rooms with electronic starting type fluorescent lamps. Consult your dealer concerning fluorescent lamp replacement.
- When the remote control operates other electric appliances, move them or consult your dealer.

HEATING OPERATION



Power supply

Power supply plug
Insert into an AC outlet.

Power supply switch
Set to ON.

1 **MODE knob**
Select HEAT.

2 **THERMO knob**
Set to the desired temperature.

3 **SELECTOR knob**
Set to AUTO, HIGH, MED, or LOW.

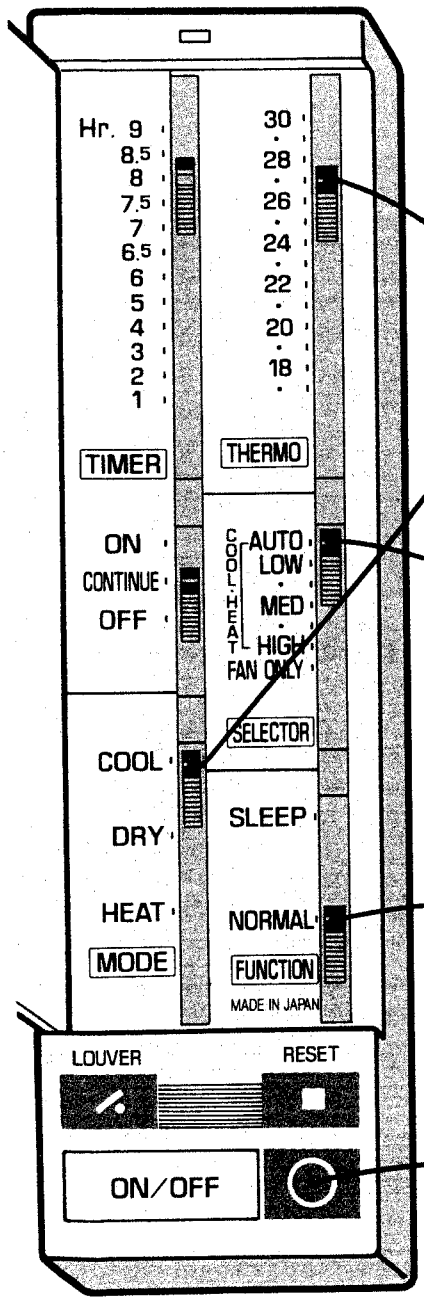
4 **FUNCTION knob**
Set to NORMAL or SLEEP.
For sleep operation, see page 21.

5 **ON/OFF button**
Push this button. The HEAT lamp goes on and the air conditioner starts operating in about 3 minutes.

Stop **ON/OFF button**
Push again. The lamp goes off and the air conditioner stops operating.

- Always push the RESET button after changing the mode of operation with a knob.
- (See page 13 for use of the timer.)

COOLING OPERATION



Power supply

Power supply plug
Insert into an AC outlet.

Power supply switch
Set to ON.

1 **MODE knob**
Select COOL.

2 **THERMO knob**
Set to the desired temperature.

3 **SELECTOR knob**
Set to AUTO, HIGH, MED, or LOW.

4 **FUNCTION knob**
Set to NORMAL or SLEEP.
- For sleep operation, see page 21.

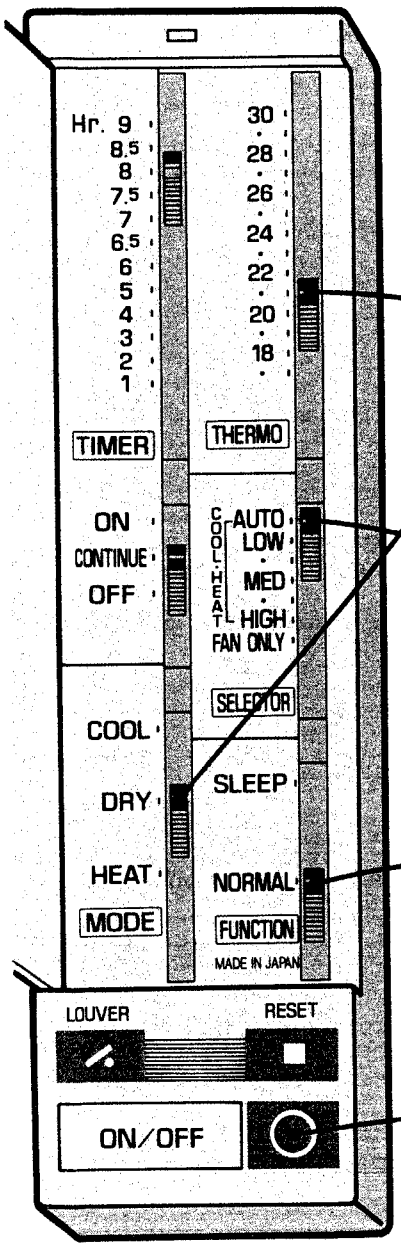
5 **ON/OFF button**
Push this button. The COOL lamp goes on and the air conditioner starts operating in about 3 minutes.

Stop **ON/OFF button**
Push this button again. The lamp goes off and the air conditioner stops operating.

- Always push the RESET button after changing the mode of operation with a knob.
- (See page 13 for use of the timer.)

DRY OPERATION

The dry operation regulates the room temperature with emphasis on dehumidifying room air. (See page 21 for further details.)



Power supply

Power supply plug
Insert into an AC outlet.

Power supply switch
Set to ON.

1 **MODE knob**
Select DRY.

2 **THERMO knob**
Set to the desired temperature.

3 **SELECTOR knob**
Set to a position other than FAN ONLY. A gentle air flow is produced by a low fan speed at any setting.

4 **FUNCTION knob**
Set to NORMAL.

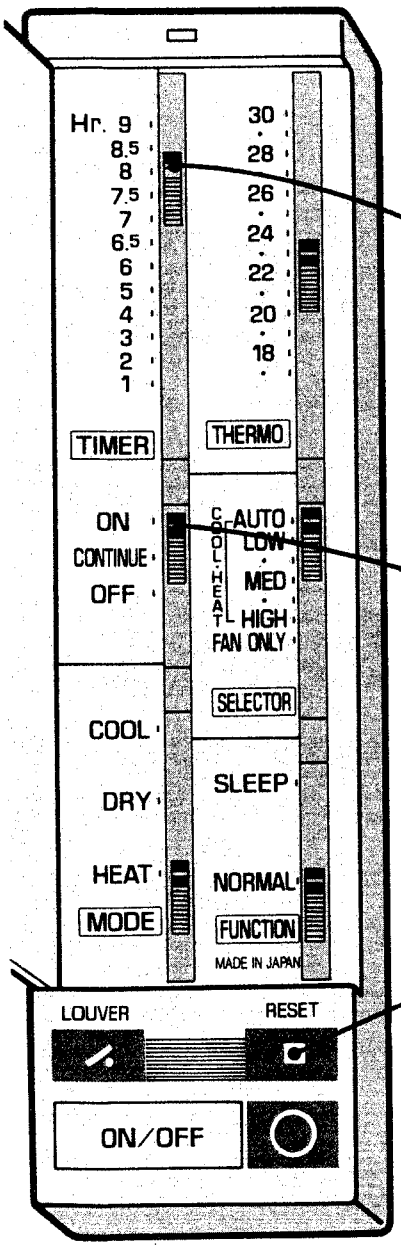
5 **ON/OFF button**
Push this button. The DRY lamp goes on and the air conditioner starts operating in about 3 minutes.

Stop **ON/OFF button**
Push this button again. The lamp goes off and the air conditioner stops operating.

- Always push the RESET button after changing the mode of operation with a knob.
- (See page 13 for use of the timer.)

TIMER OPERATION

OFF ➡ ON	Use before getting up or coming home.
ON ➡ OFF	Use before going to bed.



1 **TIMER knob**

Set the desired time interval.
Example:
It is now 10 p.m. Set to 8 to start the air conditioner at 6 a.m. the next morning (8 hours later).

2 **TIMER SELECTOR knob**

Set the knob to ON to start the air conditioner.
Set it to OFF to stop operation.

3 **RESET button**

Push this button to check that the TIMER lamp is on.
- If the lamp is off, push the ON/OFF button.

- When the RESET button is pushed for a new operational mode setting during operation, the timer will start from the time the new setting is made.

To stop operation
- Push the ON/OFF button.

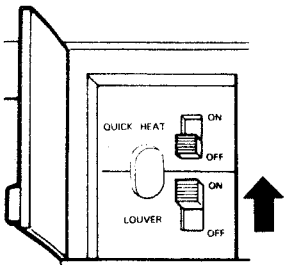
To change the timer setting
- Set the TIMER knob to the desired time, then push the RESET button. The timer will start from the time the new setting is made.

To change the timer mode to CONTINUE during timer operation
- Changing from OFF to CONTINUE
  Set the TIMER SELECTOR knob to CONTINUE, then push the RESET button.
- Changing from ON to CONTINUE
  Set the TIMER SELECTOR knob to CONTINUE, push the RESET button, then push the ON/OFF button.

ADJUSTING AIR FLOW DIRECTIONS

VERTICAL AIR FLOW ADJUSTMENT

Auto louver operation

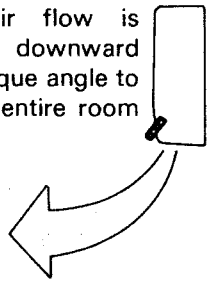


Set the LOUVER switch on the lower right of the main unit to ON.
The air flow direction automatically changes depending on the operational mode.

For heating operation

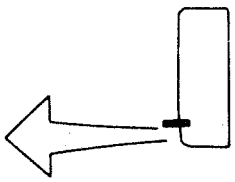
When the room temperature is low, air flow is delivered downward to heat air near the floor.

As room air becomes warm, air flow is delivered downward at an oblique angle to heat the entire room air.



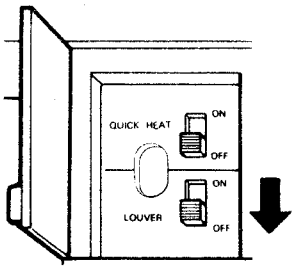
For cooling and dry operation

Air flow is delivered horizontally and cool and dry air spreads all over the room.



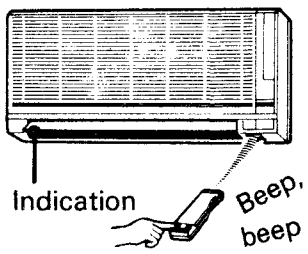
- When the desired air flow direction is not given by the auto louver operation, you can adjust it manually (within 10 degrees).

Adjustment of desired air flow direction without using the auto louver operation.

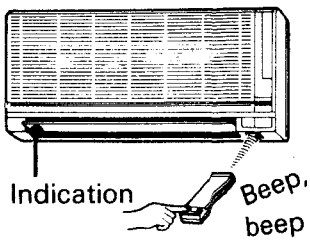


Set the LOUVER switch on the lower right of the main unit to OFF.
Hold the LOUVER button on the remote control down until the desired air flow is obtained.

For heating operation
Set the louver in the indicated range for heating.



For cooling and dry operations
Set the louver in the indicated range for cooling and dry



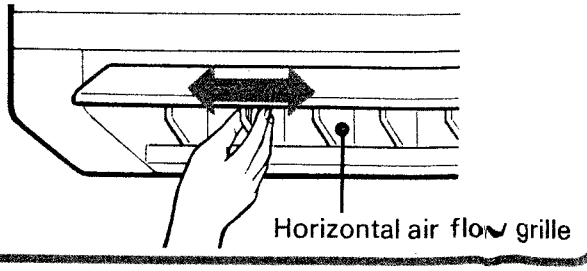
CAUTION

- Do not run the air conditioner with the louver oriented directly downward for a long time in the cooling or dry operation mode. The surface of the louver may have moisture condensation and drip.

- The air flow can be adjusted with the remote control even in LOUVER operation mode. The auto louver, however, is set to the originally determined position when the air conditioner is stopped and restarted.
- If the auto louver is manually moved in the LOUVER operation mode, it is not set to the original position when the air conditioner is stopped and restarted. Adjust it manually.
- The air flow cannot be adjusted with the remote control when the air conditioner is stopped (also when the TIMER SELECTOR knob is set to ON).

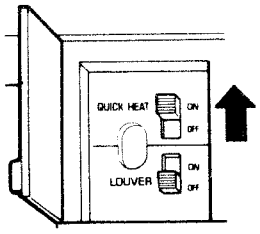
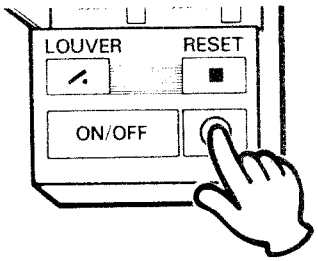
HORIZONTAL AIR FLOW ADJUSTMENT

Move the grilles left or right to adjust the horizontal air flow as desired or depending on the room state.



QUICK HEATING OPERATION

This function delivers warm air in a few minutes after the air conditioner starts, thus heating the room air quickly.

Setting procedure	Operation
Set the QUICK HEAT switch of the main controls to ON.  The red lamp (upper) goes on. (Make this setting 5 hours or more before operation.)	push the ON/OFF button on the remote control.  1. The red lamps (upper and lower) go on. 2. Warm air is delivered and the lamps go off.

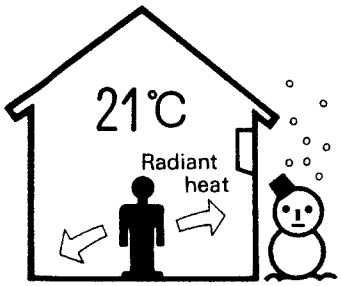
- Always set the QUICK HEAT switch to ON in heating seasons.
- Power consumption when the QUICK HEAT switch is set to ON is approximately 27 W.
- If the red lamp fails to go on when the QUICK HEAT switch is set to ON in the stop state, run the air conditioner in the heating operation mode.

RADIATION SENSOR

Effect of radiant heat

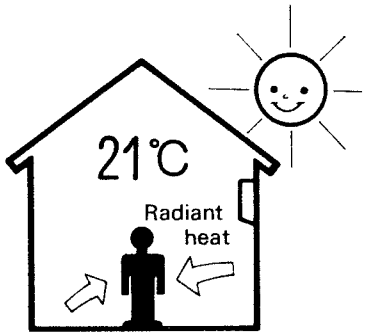
You feel differently in the same room temperature.

When the temperature of the walls and floor is lower than the room temperature



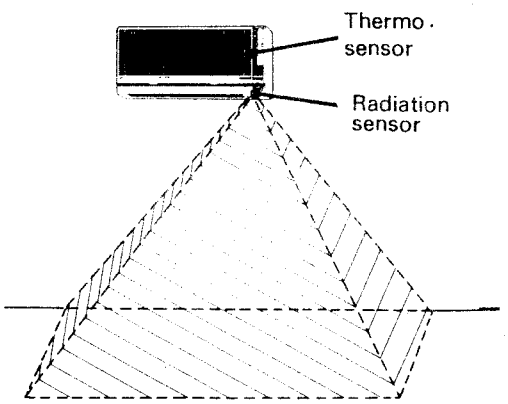
Your body heat is dissipated; you feel chilly.

When the temperature of the walls and floor is higher than the room temperature.



You feel warm because of the heat radiated from the walls and floor.

Functions and effects of radiation sensor

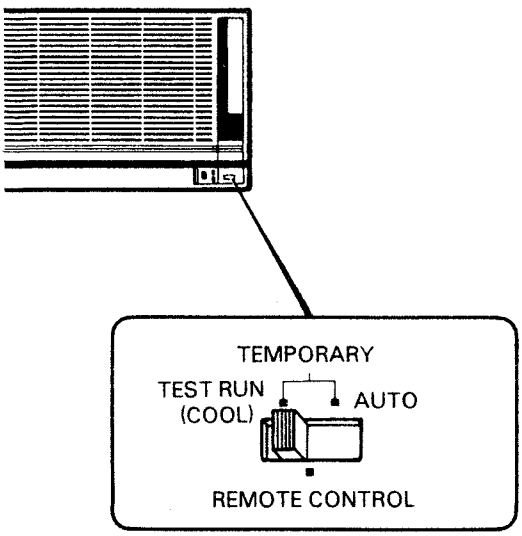


The radiation sensor that senses heat radiated from the walls and floor interlocks with the room temperature sensor to adjust the setting temperature automatically.
This function protects you from chills in winter and heat in summer. You will have a comfortable, economical environment.

- The radiation sensor senses the average radiant heat from the walls and floor below the air conditioner.

TEMPORARY OPERATION

This mode of operation is used when operation is not otherwise possible because of exhausted remote control batteries, loss of the remote control, and so on.
Set the switch to the REMOTE CONTROL position during normal operation.



When the TEMPORARY switch is set to AUTO

The air conditioner operates by automatically selecting the cooling, dry, fan only, or heating mode depending on the room temperature.

When the TEMPORARY switch is set to TEST RUN

The air conditioner operates in the cooling mode (at a low fan speed).

- The remote control operation is disabled in the forced (temporary) operation mode.
- The ROOM TEMPERATURE MONITOR lamp does not go on in the test run (cool) operation.

ENSURING PROPER AIR CONDITIONER USAGE

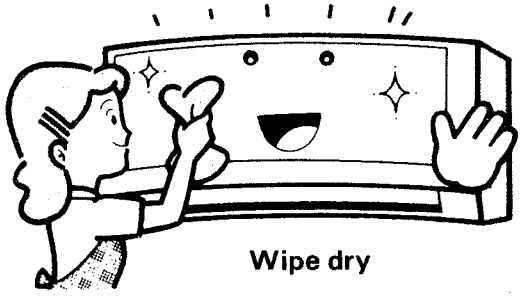
FOR MAINTENANCE 19
AIR CONDITIONER OPERATIONS AND PERFORMANCE 20
HOW THE AIR CONDITIONER WORKS 21
INSTALLATION 22
TROUBLES AND CAUSES 23
REPAIR AND SERVICE 25
SPECIFICATIONS 26

FOR MAINTENANCE

When servicing the air conditioner, be sure to turn it off. Remove the power plug.

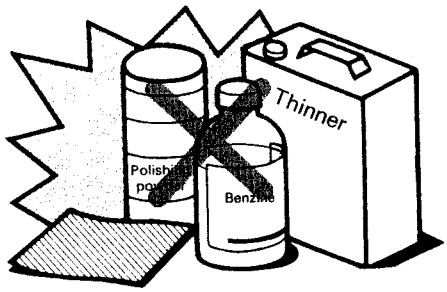
Clean the main unit and remote control.

- Polish it with a soft and dry cloth
- Clean the dirty main unit with a cloth moistened with water (less than 40°C), and polish it with a dry cloth. (Never use a moist cloth to clean the remote control. Just polish it with a dry cloth.)



Wipe dry

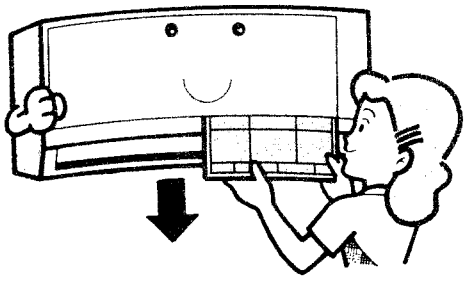
- Never use gasoline, benzine, thinner or similar solvents as cleaning agents. Do not use polishing powder or a chemical duster. These may cause the plastic surface to crack or deform.



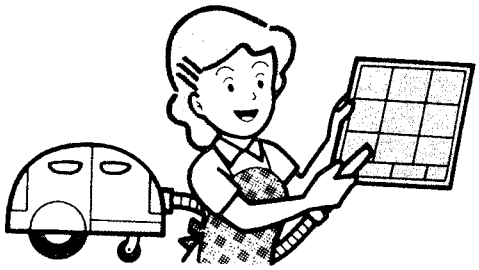
Clean the air filter

- Clean the air filter every 2 weeks.

① Pull the air filter down ward.



② To remove dust from the air filter, use a vacuum cleaner or pat it to dislodge the dust. If the air filter is fouled seriously, immerse it in lukewarm water and shake it up and down.
Then, replace the air filter in the indoor unit as it was before.



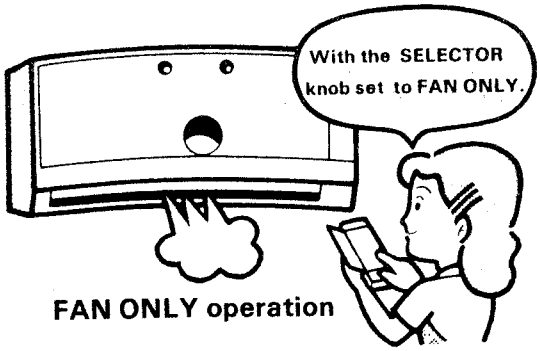
③ Clean the air filter, dry it well, then replace as it was.

No operation for more than 1 month

① Operate the fan for about half a day to dry the machine inside.

② Stop the air conditioner and remove the power plug.

③ Remove the remote control batteries.



FAN ONLY operation

Check up before operation

- Check that the ground wire is not broken or disconnected.
- Check that the air filter is installed.
- Check that the outdoor unit air outlet or inlet is not blocked.

AIR CONDITIONER OPERATIONS AND PERFORMANCE

Three-minute protection feature

A protection feature prevents the air conditioner from being activated for about 3 minutes when it is restarted immediately just after operation or when the power plug is connected to an AC outlet.

Characteristics of heating operation

Preheating operation
Warm air flow will not be delivered immediately at the start of operation until the indoor heat exchanger warms up. Warm air flow is delivered within 2 or 3 minutes in the QUICK HEAT mode.

Warm air control
When the room temperature reaches the set temperature, the fan speed is automatically reduced to prevent a cold draft.

Defrosting
If the outdoor unit is frosted during heating operation, defrost operation is initiated automatically (for about 2 to 10 minutes) to maintain the heating effect.

- The fans in both the indoor and outdoor units are stopped during defrost operation.
- During defrost operation, defrosted water is drained from the bottom plate.

Characteristics of dry operation

The indoor unit fan delivers gentle air at whichever position the SELECTOR knob is set. Dry operation is suppressed at the FAN ONLY position.

- The indoor unit fan stops when the POWER MONITOR indicator lamp is off during operation.
- When the FUNCTION knob is set to SLEEP, normal cool and dry operation is performed.

Heating capacity

This air conditioner uses an inverter that raises the rotational speed of the compressor to maintain the heating capacity when the outdoor temperature becomes low. If you still feel chilly, it is recommended to use another heating apparatus in combination with the air conditioner.

Power failure

A power failure during operation stops the entire operation.

- The TIMER lamp on the main unit blinks to indicate when power is restored.
- To restart operation, push the ON/OFF button.

If a malfunction occurs during operation due to lightning or car wireless telephone, set the POWER SUPPLY switch to OFF, set it to ON again, then push the ON/OFF button again.

Air conditioner operating conditions

For proper performance, run the air conditioner under the following temperature conditions:

Cooling operation	Outdoor temperature: 21 – 43°C
	Room temperature: 21 – 32°C
	Room humidity: Less than 80% If the air conditioner runs under more than 80% humidity for a long time, the surface of the machine will have moisture condensation and drip.
Heating operation	Outdoor temperature: Between – 5°C and 21°C (Usable outdoor temperature: Between –10°C and 21°C)
	Room temperature: Less than 28°C
Dry operation	Outdoor temperature: 11 – 43°C
	Room temperature: 11 – 22°C (under heating dry operation) 17 – 32°C (under cooling dry operation)

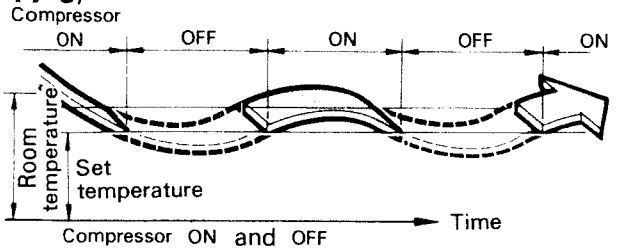
HOW THE AIR CONDITIONER WORKS

Dry operation

In the dry operation, the air conditioner selects cooling dry operation or heating dry operation automatically depending on the difference between the room temperature and set temperature, thus controlling the room temperature with emphasis on dehumidifying room air.

Cooling dry operation

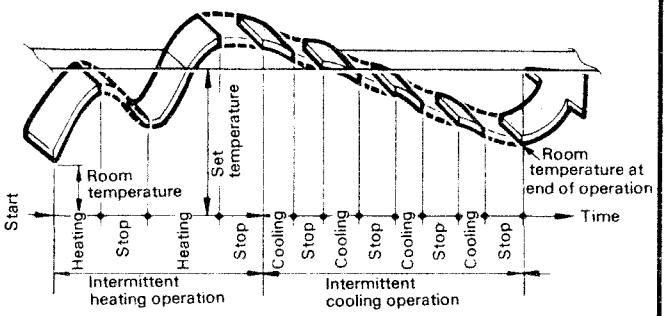
The cooling dry operation is selected when the room temperature is higher than the set temperature.
(It is used when the room temperature is **above 17°C**)



Cooling operation and stop are repeated to regulate the room temperature while dehumidifying room air.
The indoor unit fan operates at low speed regardless of the setting of the SELECTOR knob. Cooling dry operation is suppressed at the FAN ONLY position.

Heating dry operation

The heating dry operation is selected when the room temperature is lower than the set temperature.
(It is used when the room temperature is **above 11°C and below 22°C**)

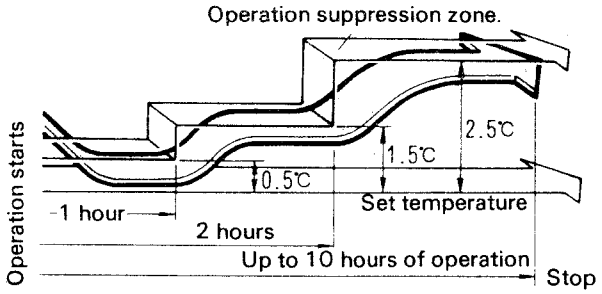


Intermittent cooling and heating are repeated to dehumidity room air until the room temperature reaches the set temperature.
The indoor unit fan maintains the air flow previously set by the micro processor, regardless of the setting of the SELECTOR knob. The heating dry operation is suppressed at the FAN ONLY position.

Sleep operation

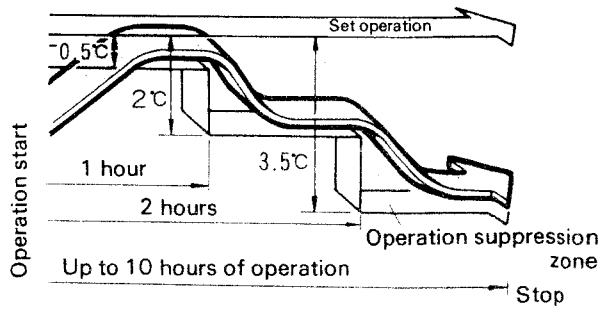
Your body temperature drops while sleeping, so the room temperature is controlled to prevent overcooling in summer and overheating in winter, while saving on your electric bill.

Cooling operation



In the operation suppression zone, where capacity is kept to the minimum, overcooling is prevented by raising the temperature setting by 1.5°C after 1 hour and by 2.5°C after 2 hours of operation. The room temperature is thus regulated between the operation suppression zone and the set temperature. (It depends on the outdoor temperature.)
This operation continues for up to 10 hours and stops automatically (with the TIMER SELECTOR knob set to CONTINUE).

Heating operation



In the operation suppression zone, where capacity is kept to the minimum, overheating is prevented by lowering the temperature setting by 2°C after 1 hour and by 3.5°C after 2 hours of operation. The room temperature is thus regulated between the set temperature and the operation suppression zone. This operation continues for up to 10 hours and stops automatically (with the TIMER SELECTOR knob set to CONTINUE).

INSTALLATION

Location

- Your air conditioner removes moisture from the room air when cooling.
  Arrange a pipe to drain all water from the unit.
- Keep the indoor unit at least 1 m apart from the TV set or radio to protect them against image disturbances or noises.
- Don't install the unit in a hazardous location where combustible gas or vapor is likely to concentrate in the air.
- If the air conditioner is operated in an atmosphere containing oils (machine oil), salt near a coastal area, sulfide gas near a hot spring, etc. Such substances may lead to failure of the unit.
- Install the air conditioner on solid ground to prevent transmission of noises or vibrations to other sites or their amplification.
- Objects placed near the air outlet of the outdoor unit could amplify noises emitted from it.
- Locate the outdoor unit where noise emitted by it or hot air from its air outlet will cause no nuisance to your neighbors.

Warning

THIS APPLIANCE MUST BE EARTHED.

IMPORTANT
THE WIRES IN THIS MAINS LEAD ARE COLORED IN ACCORDANCE WITH THE FOLLOWING CODE:

Green and Yellow	—EARTH
Blue	—NEUTRAL
Brown	—LIVE

As the colors of the flexible cord of this appliance may not correspond with the colored markings identifying terminals in your plug, proceed as follows:

Connect GREEN AND YELLOW colored core to plug terminal marked letter "E" or Earth Symbol or colored Green or Green and Yellow.

Connect BROWN colored core to plug terminal marked letter "L" or colored Red.

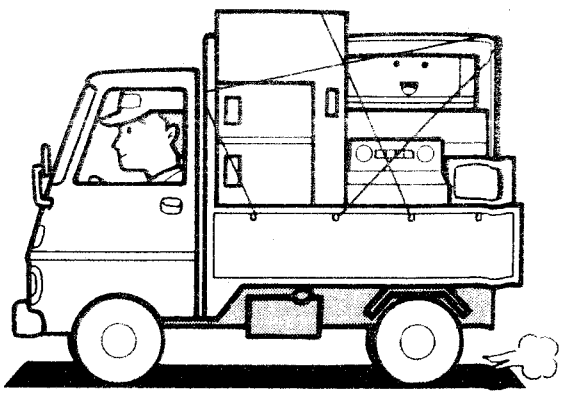
Connect BLUE colored core to plug terminal marked letter "N" or colored Black.

Wiring

- Ground the air conditioner for prevention of electric shock.
- Provide an outlet for exclusive use with your air conditioner.
- Multiple leads connected together with the air conditioner might possibly cause overheating or even a fire.
- Never pull the power cord tight.
- In some countries, it is mandatory to use a leakage breaker for prevention of electric shock hazards.
- Ground the air conditioner in accordance with the appliable local regulations.
- Use a fuse with the correct rated ampere, if it is needed.

Relocation

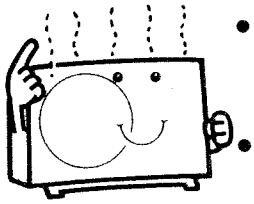
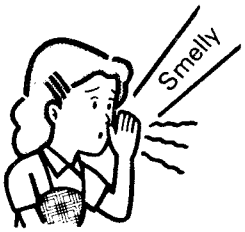
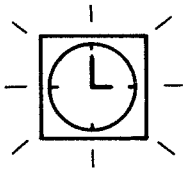
If you move out or if it is desired to relocate the air conditioner, consult your dealer because the special skills to withdraw Freon, purge air, and perform other operations are required.



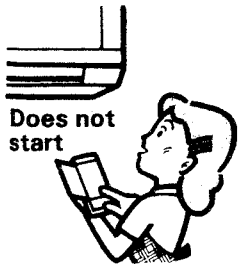
TROUBLES AND CAUSES

Before requesting servicing, check the following points:

These are not failures.

Symptoms	Possible causes
 • A white mist of chilled air is generated from the outdoor unit. • A crack is sometimes heard from the outdoor unit.	• The outdoor unit fan has automatically stopped to defrost. • The solenoid valve produces this noise when it operates at the start and end of defrost operation.
 Room air is smelly.	• Smells impregnated in the wall, carpet, furniture, clothing, or furs, are coming out.
 The TIMER lamp blinks.	• The lamp blinks when the power is restarted after a power failure or the power supply plug is inserted into an outlet.
The air conditioner does not start up.	• A protection feature prevents the air conditioner from being activated for about 3 minutes when it is restarted immediately just after operation or when the power plug is connected to an AC outlet.
The fan speed does not change during dry operation.	• In the dry operation, the indoor unit fan operates at low speed regardless of setting of the SELECTOR knob.
The fan does not operate when the heating operation is started. The PREHEAT • DEFROST lamp lights.	• When starting the heating operation or during defrosting operation, the fan is put into halt to prevent the cool air from discharging, and at the same time the PREHEAT-DEFROST lamp lights. When the heat exchanger becomes warm enough, the fan starts operating.
The compressor sometimes stops during operation.	• The protective device may operates to stop the compressor, thereby protecting the compressor.

Please check again

Symptoms	Possible causes
 Inoperative	• Power failure • The POWER SUPPLY switch is set to OFF. • The power plug is not inserted. • The power fuse is blown or the circuit breaker is tripped. • The timer is set.
Does not cool or heat well.	• The outdoor unit air inlet or outlet is blocked. • Doors or windows are open. • The air filter is clogged with dust. • The auto louver is not at the correct position. • The SELECTOR knob is set to LOW. • The THERMO knob is not set to the proper position.

In any of the following conditions, stop the air conditioner immediately, remove the power plug, and call the dealer from whom the air conditioner was purchased:

- Any of the operation mode indicator lamps except for the TIMER lamp blinks

COOL HEAT

DRY SLEEP

- Switch operations are erratic.
- The fuse is frequently blown or the circuit breaker is frequently tripped.
- Foreign matter or water has penetrated the interior of the air conditioner.
- The cord is overheated or its covering is broken.
- Any other unusual condition is observed.

REPAIR AND SERVICE

REPAIR

Please give us the following information when you request us to repair your air conditioner:

- Type of your air conditioner
- Purchase date
- Failure state (detailed as much as possible)
- Your name, address, and phone number

Whom you have to consult

When you need your air conditioner repaired or checked, consult the dealer from whom the air conditioner was purchased.

Never attempt to repair the unit by yourself.

Check service

- Depending on the service state, the inside of your air conditioner may be dirty and the performance may be degraded after several seasons. You are then recommended to request a chargeable check of your air conditioner in addition to the ordinary maintenance described on page 19.

SPECIFICATIONS

MODEL	Indoor unit RAS-22EKHV(W)	Outdoor unit RAS-22EAHV
Type	Reverse Cycle, Split type	
Power supply	1ϕ, 50Hz, 220/240V	
Cooling Capacity	8960 Btu/h	
Amps	0.17A	4.66A
Watts	35W	965W
Power factor	90%	90%
Heating Capacity	13600 Btu/h	
Amps	0.17A	6.50A
Watts	35W	1345W
Power factor	90%	90%
Net weight	9.5 kg	35 kg
Dimensions Width	790 mm	780 mm
Height	370 mm	538 mm
Depth	155 mm	245 mm
Starting current	4A	

- The specifications may be subject to change without notice for purpose of improvement.